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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,313	03/29/2002	Fabrizio Lori	PRE-C218	7292

7590 05/04/2005  
Lorusso & Loud  
3137 Mount Vernon Avenue  
Alexandria, VA 22305

EXAMINER
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MUSSER, BARBARA J

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/089,313

Applicant(s)

LORI ET AL.

Examiner

Barbara J. Musser

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 March 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear if the heating steps of claim 8 are the heating step of claim 7 or in addition to them.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7 and 9-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathis(U.S. Patent 6,610,163) in view of Matthews et al.

Mathis discloses forming a double layer transpiring film by bubble extruding a mixture of filler and polyethylene to form a tube, flattening the tube to form a multi-layer flat film, and stretching the film.(Col. 2, ll. 28-35; Col. 5, ll. 15-23) While the reference does not explicitly state the two sides of the flat film are bonded, since a multi-layer film is formed, one in the art would expect the layers to be bonded together since the layers

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are still tacky at the time they are joined together.(Col. 5, ll. 15-20) The reference does not disclose flattening the film, heating it, and then compressing it to bond the layers together though it is vague as to the exact location of the bonding, only stating a multi-layer film is formed between the collapsing and the trimming.(Col. 2, ll. 33-35)

Matthews et al. discloses collapsing a film bubble, heating it to bond the layers together while longitudinally stretching it, and then transversely stretching and cooling the film.(Col. 5, ll. 51-55; Col. 6, ll. 1-16, 28-33) It would have been obvious to one of ordinary skill in the art at the time the invention was made to flatten the film, heat it, and then compress the layers together bonding them, since Matthews et al. shows this is a known alternative to collapsing and bonding simultaneously and since this insures the film is hot enough to bond the layers together. Matthews et al. discloses cooling the film to 60-65F.(Col. 6, ll. 13)

Regarding claim 9, the filler is 10-50% by volume of the mixture(Col. 4, ll. 55-56), which since it is forming the same type of film for the same general purpose, i.e. to allow the passage of vapor and air while preventing water from passing, this is considered to translate into a weight range that at least overlaps applicant's.

Regarding claims 10 and 11, the film is made of linear low density polyethylene.(Col. 4, ll. 43-44)

Regarding claims 12, 14, 16, and 18, the fillers are 0.5-8 microns, and since the fillers are the same type as applicant's, they would have the same characteristics, i.e. hydrophobicity.(Col. 2, ll. 55-56, 66-67)

Regarding claims 13, 15, 17, and 19, Mathis discloses the fillers include clay, calcium carbonate, and titanium dioxide.(Col. 2, ll. 66- Col. 3, ll. 6)

5. Claims 8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 7 above, and further in view of Van Cappellen(U.S. Patent 3,816,886).

While Mathis is not specific as to the stretching, Matthews discloses stretching the film between two sets of rollers, both of which are heated to temperatures that cause lamination.(Col. 6, ll. 28-32) This suggests that the stretching may delaminate the layers or at least that one set of rollers is not enough to insure lamination. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use one set of heated rollers before the stretching and one set after to insure lamination as suggested by Matthews et al.(Col. 6, ll. 28-32) The references cited above not disclose using two heating means to heat the film. Van Cappellen discloses an apparatus for stretching a film wherein the film is heated via a heated roller(conduction) and an infrared heater(irradiation) to reduce wrinkling of the film during stretching(Col. 2, ll. 45-57; Col. 1, ll. 43-47) by reducing the amount of time the film is freely supported before the film begins to soft for stretching.(Col. 2, ll. 27-34) It would have been obvious to one of ordinary skill in the art at the time the invention was made to place an infrared heater immediately after the heated roll(A) to reduce the amount of time the film is freely supported before the film begins to soft for stretching(Col. 2, ll. 27-34) thus reducing wrinkling of the film during stretching.(Col. 1, ll. 43-47) Since Matthews et al. indicates both sets of rolls A and B compress the layers to laminate them together(Col.

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6, ll. 28-32), the film has been heated by a heated roll(A) and an infrared heater in series prior to compression at roll(B). It is noted the claims do not require both conduction and irradiation heating to occur prior to the compression.

6. Claims 7, 10-13 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kagawa(U.S. Patent 4,878,974) in view of Matthews et al.

Kagawa discloses forming a gas permeable heat-shrinkable film by extruding a film containing a filler using inflation methods(bubble-extruding), stretching it, and bonding it to a nonwoven.(Col. 6, ll. 31-35; Col. 7, ll. 5-9) While the reference does not disclose the filler imparting transpirability upon stretching, since the film contains filler and is stretched, it would become more transpirable upon stretching since the filler particles perform the same function in the film of Kagawa as in conventional gas-permeable films which is to form a gas-permeable film upon the stretching of the film. The reference does not disclose the specifics of the formation of the heat-shrinkable film prior to its bonding to the nonwoven. Matthews et al. discloses forming a heat-shrinkable sheet by bubble extruding a composition, flattening the formed tubular film(nip roll), heating the flat film, bonding it to itself, stretching the film, and cooling the film.(Col. 5, ll. 50-63; Col. 6, ll. 28-32; Col. 7, ll. 26-29; Figure 4) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the method of Matthews et al. to form the heat-shrinkable film of Kagawa et al. since Kagawa et al. is silent as to the exact steps in the formation method and since this method results in a film which can be shrunk without wrinkling and at low temperatures.(Col. 4, ll. 43-48)

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Since the layers of the film are laminated together using a pair of rollers in Matthews et al., one in the art would appreciate that the rollers exerted pressure on the film layers to bond them. Matthews et al. states the cooling roller is cooled to 65 F, but does not disclose the temperature of the film. It would have been obvious to one of ordinary skill in the art at the time the invention was made to cool the film to 8-30 C using the cooling roller since the roller is cooled to that temperature region and since the reference discloses that the rollers heated to 190C heated the film to 190 C indicating the rollers heated or cooled the film to approximately their temperature.(Col. 7, ll. 52-55; Col. 8, ll. 33-34)

Regarding claim 9, the filler is 10-50% by volume of the mixture(Col. 4, ll. 55-56), which since it is forming the same type of film for the same general purpose, i.e. to allow the passage of vapor and air while preventing water from passing, this is considered to translate into a weight range that at least overlaps applicant's.

Regarding claims 10 and 11, the film contains linear low density polyethylene.(Col. 5, ll. 55)

Regarding claims 12, 16, and 18, the fillers are 1-3 microns, and since the fillers are the same type as applicant's, they would have the same characteristics, i.e. hydrophobicity.(Col. 26, ll. 16-19)

Regarding claims 13, 17, and 19, Mathis discloses the fillers include clay, calcium carbonate, and titanium dioxide.(Col. 6, ll. 7-15)

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7. Claims 8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 7 above, and further in view of Van Cappellen(U.S. Patent 3,816,886).

The references cited above not disclose using two heating means to heat the film. Van Cappellen discloses an apparatus for stretching a film wherein the film is heated via a heated roller(conduction) and an infrared heater(irradiation) to reduce wrinkling of the film during stretching(Col. 2, ll. 45-57; Col. 1, ll. 43-47) by reducing the amount of time the film is freely supported before the film begins to soften for stretching.(Col. 2, ll. 27-34) It would have been obvious to one of ordinary skill in the art at the time the invention was made to place an infrared heater immediately after the heated roll(A) to reduce the amount of time the film is freely supported before the film begins to soft for stretching(Col. 2, ll. 27-34) thus reducing wrinkling of the film during stretching.(Col. 1, ll. 43-47) Since Matthews et al. indicates both sets of rolls A and B compress the layers to laminate them together(Col. 6, ll. 28-32), the film has been heated by a heated roll(A) and an infrared heater in series prior to compression at roll(B).

8. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matthews et al. in view of Van Cappellen.

Matthews et al. discloses bubble extruding a polymer, flattening the formed tubular film(nip roll), heating the flat film, stretching the film, and cooling the film.(Col. 5, ll. 50-63; Col. 7, ll. 26-29; Figure 4) While the reference does not specifically state the film is compressed, it is pulled between sets of rollers which bond the layers



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together.(Col. 5, ll. 53-55; Col. 6, ll. 28-31) One in the art would appreciate that since the purpose of the rollers was to bond the layers together, they would exert a compressive force, particularly since they are part of a stretching apparatus and therefore necessarily hold the film tightly. The reference states the cooling roller is cooled to 65 F, but does not disclose the temperature of the film. One in the art would understand that since films are so thin, the film would have a temperature near that of the cooling roller and therefore would have a temperature between 8 and 30C particularly since the reference discloses the film is heated to 190C via the rollers heated to 190C indicating the rollers heated or cooled the film to approximately their temperature.(Col. 7, ll. 52-55; Col. 8, ll. 33-34). The reference does not disclose using two heating means to heat the film. Van Cappellen discloses an apparatus for stretching a film wherein the film is heated via a heated roller(conduction) and an infrared heater(irradiation) to reduce wrinkling of the film during stretching(Col. 2, ll. 45-57; Col. 1, ll. 43-47) by reducing the amount of time the film is freely supported before the film begins to soften for stretching.(Col. 2, ll. 27-34) It would have been obvious to one of ordinary skill in the art at the time the invention was made to place an infrared heater immediately after the heated roll(A) to reduce the amount of time the film is freely supported before the film begins to soften for stretching(Col. 2, ll. 27-34) thus reducing wrinkling of the film during stretching.(Col. 1, ll. 43-47) Since Matthews et al. indicates both sets of rolls A and B compress the layers to laminate them together(Col. 6, ll. 28-32), the film has been heated by a heated roll(A) and an infrared heater in series prior to compression at roll(B).

***Response to Arguments***

9. Applicant's arguments filed 3/11/05 have been fully considered but they are not persuasive.

Regarding applicant's argument that Matthews et al. is directed to a heat-shrinkable film which is incompatible with a transpiring film, Kagawa et al. discloses a film which contains filler and is heat-shrinkable. This indicates that a heat-shrinkable film and a film containing a filler are not mutually exclusive.

Regarding applicant's argument that the heating means of Van Cappellen is for use during stretching and not during compressing the layers together, the claims do not require an order and therefore the stretching steps can occur anywhere within the process line where the layers are flattened together. The claims do not require both heating steps to occur before the compression step. Additionally, Matthews et al. shows heating(bonding), stretching, and then heating(bonding) again.(Col. 6, ll. 28-32) Since the stretching occurs between the heated rollers, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add an infrared heater immediately after the first set of heated rollers(A) since this would reduce wrinkling of the film during stretching(Col. 2, ll. 45-57; Col. 1, ll. 43-47) by reducing the amount of time the film is freely supported before the film begins to soft for stretching(Col. 2, ll. 27-34), thus having a heated roller(A), an infrared heater, and a second heated roller(B) which also compresses the film layers together.

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The amendments to the specification are not considered to introduce new matter as they are an obvious error with an obvious solution.

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara J. Musser whose telephone number is (571) 272-1222. The examiner can normally be reached on Monday-Thursday; alternate Fridays.

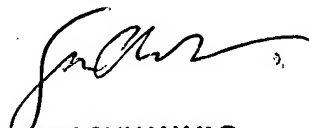
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571)-272-1156. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
BJM

  
SAM CHUAN YAO  
PRIMARY EXAMINER